

An Inaugural

Dissertation

on

Cholera Infantum

by

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of

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Introduction

It was my intention to have written an experimental essay, and indeed I had commenced a series of experiments, by dividing the par-vagus of a puppy; with the intention of producing artificial respiration, as soon as natural respiration ceased; and of observing whether any alteration of the venous blood would take place after this, and also whether there would be an absence of animal heat; but my apparatus for performing artificial respiration being defective, I was compelled to abandon it altogether. I then determined to write upon some disease, and as Cholera Infantum is one; the symptoms, and treatment of which, I had a great opportunity of observing during the two last summers I have thought proper, to select this, as the subject of my inaugural dissertation. So sensible am I of

Introduction

The first object of this Introduction is to show the nature and extent of the subject, and to point out the various branches into which it is divided. It is also intended to give a general view of the progress of the science, and to point out the various methods which have been employed to investigate it. The object of the Introduction is to give a general view of the subject, and to point out the various branches into which it is divided. It is also intended to give a general view of the progress of the science, and to point out the various methods which have been employed to investigate it.

my inability to do justice to this Subject, that no inducement whatever would be sufficient to call forth my feeble efforts at this particular crisis, were it not in compliance, with an indispensable duty imposed, by an institute of this university. I must therefore plead, the shortness of time allowed; during which we have to prepare a dissertation; the impossibility of founding our theories, upon the basis of our own observations, in consequence of extreme youth and inexperience; and the necessary engagements in pursuits highly unfavourable to felicity in composition, or success in scientific research; as an excuse for the imperfect nature of this dissertation. It would be with great diffidence that I should submit this imperfect treatise, to the scrutiny of that able tribunal; were I not encouraged with the hope of its receiving all the indulgence, which candour, with justice can bestow.

Cholera Infantum

This disease is said to be almost peculiar to the United States; and if I were to form my opinion with respect to its occurrence in other countries, from their medical records and publications, on the subject of the diseases of children, I should be led to pronounce it, endemic to this country. I admit that in other countries, there are diseases resembling Cholera Infantum in some respects; but deny that they can be recognised as the true form of this disease. It is a disease attended with great mortality, carrying off hundreds, and thousands of infants every summer, thereby annihilating the fond hopes, of their distressed parents. Notwithstanding the numerous victims yielding to this disorder, annually, the works on this subject, exhibited to the public eye, are few in number. The degree to which it rages, and the

danger attendant upon it, are in every instance supposed to be, in proportion to the heat of the Atmosphere. Of this fact I am fully persuaded, from having observed in many cases a happy change to take place in a cool day; and as soon as it became warm, there would be an aggravation of all the symptoms.

Symptoms

This disease is frequently ushered in with a looseness of the bowels, or diarrhoea, which may continue several days without the child being in any other way indisposed; but more frequently it is attended with an excessive degree of vomiting, and a high fever. The discharges from the bowels are generally of a green colour, sometimes mixed with slime, and blood, at other times I have seen them quite black. Sometimes worms are discharged in each kind of stools that have been mentioned. At this stage of the disease there are symptoms of great pain. The feet are frequently drawn up to the abdomen, the patients are very restless

so much so indeed that it is impossible to keep them in one position. They are of their natural temperature, or frequently cold, while there is a great degree of heat on the head, showing that there is determination to that part of the system. The pulse is quick frequent and small. The skin is dry and hot, and there is a great degree of thirst, which is displayed in the child taking every kind of liquid into its mouth with avidity. The head is sometimes so much affected, as to produce symptoms of delirium, and mania. This is sometimes in such a degree that the child makes frequent attempts to bite its parent or nurse. The abdomen is almost always enlarged. The skin in the folds of the extremities, and on the neck, often the disease has continued for some days, becomes wrinkled, dry, and dry, and displays a deeper tinge of yellow, than any other part of the body. These last symptoms I have never seen mentioned, by any author I have read on this subject, but have observed it myself in every case I have seen.

The eyes have a languid, and hollow appearance, and the child frequently sleeps with them half open, and shows

no disposition to rid itself of flies, when they light upon the eyes. At this stage the child always lies on its back, and shows no disposition to alter its position. This disease proves fatal sometimes in a few days; but more frequently it is of longer continuance, at length terminating in dissection with many disagreeable, and distressing symptoms, such as great emaciation, livid spots, singultus, convulsions, a strongly marked hydropic countenance, sore throat and mouth, and sometimes a troublesome cough.

Pathology

Many are the causes to which this disease has been attributed. The fruits of the summer have been considered alone, among the primary causes of this disorder; but to this opinion, it may be objected, that we more frequently meet with this disease in large towns, where fruit is not so easily obtained as in the country than we do in country situations. It may also be observed that this complaint frequently attacks very young children, who

have never tasted fruit. I saw this take place in two instances last summer. It has likewise been attributed both to worms, and dentition, neither of which do I consider as a primary cause of this disease; because the cases are too numerous, where children are affected with this complaint before the age of dentition; and we also know it to be a fact, that this disease never occurs but at one particular season of the year. That dentition and worms sometimes act as exciting causes, I do not pretend to deny; but then there must have been previously existing some predisposing cause, without the presence of which, this disease could not be excited. That which I consider to be the true cause of this disease, is a heated ^{State of the Atmosphere} State of the Atmosphere, producing a debilitated state of the Stomach, and bowels, and thereby rendering them particularly liable to take on that morbid state of action. The liver is almost always affected, in this disease, but this affection of the liver, I do not consider as direct, and idiopathic, but produced through the medium of sympathy. This diseased state of the liver will be sufficiently evident

on examination after dissection. It is ascertained by dissection, that the viscera of the abdomen receive the whole force of the disease. The effects of inflammation are to be seen through the whole of the alimentary canal. The liver is generally enlarged; and this may very frequently be felt through the abdominal muscles on examination. Having now laid down what I consider to be a correct pathology of Cholera Infantum, I shall proceed to its treatment.

Treatment

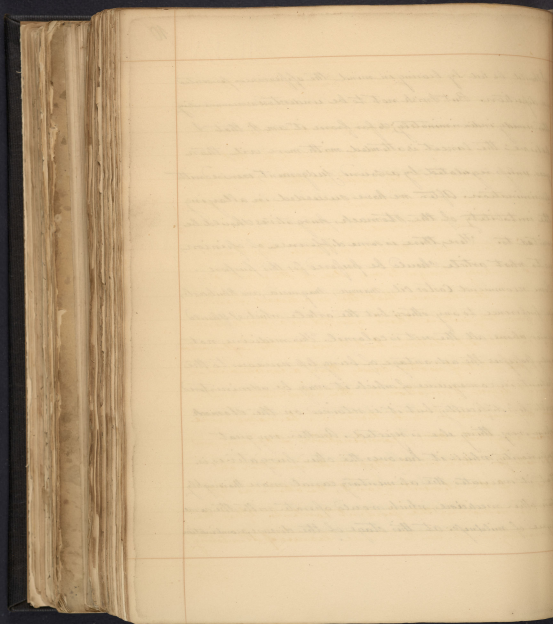
In the statement of the symptoms of this disease, I have shown, that it always makes its appearance, with considerable disorder of the stomach and bowels. The presence of such symptoms, would lead me to conclude, that the first indication in attempting a cure; should be, to clear the stomach, and bowels, the most effectual means of doing which, are emetics. These not only evacuate the stomach, and bowels; but at the same time determine to the ^{surface} and in that

Conclusion

may eliminate disease from the alimentary canal. It sometimes happens, however, before an emetic is administered, and even after its operation, that the stomach is so irritable as to reject every thing immediately on its being swallowed. In such a case, our object should be directed, to allay this irritation as speedily as possible. For the accomplishment of this end I would recommend, the use of anodyne injections, together with warm fomentations to the Epigastric region. I have seen a little mint bruised, and steeped in warm Whisky, or Brandy, and then applied over the region of the stomach; attended with very happy effects. Equal parts of new milk, and lime water, administered internally will frequently allay excessive irritation of the stomach. Should these remedies fail in producing the desired effect we should resort to the application of a Sinapism, or blistering plaster over the epigastric region. At this period of the disease, if there should be much fever, and symptoms of inflammation I would not hesitate to bleed, as I believe it is absolutely necessary to resort to bloodletting in the cases of children, as in those of adults. To this practice

I should be led by bearing in mind the appearances presented on dissection. But do not to be understood as recommending this remedy indiscriminately; so far from it am I, that I believe the lancet is attended with more evil, than good, unless regulated by a sound judgement, exercised with discrimination. After we have succeeded in allaying the irritability of the stomach, purgatives should be resorted to. Here, there is some difference of opinion, as to what article should be preferred for this purpose.

Some recommend Castor Oil, Manna, Magnesia, and Rhubarb, in preference to any other; but the article which I should prefer, above all the rest is calomel. This medicine not only possesses the advantage, of being less noxious to the patient, in consequence of which it may be administered with less difficulty; but it is retained on the stomach when every thing else is rejected. Another very great superiority, which it has over the other purgatives, is, that it evacuates the alimentary canal more thoroughly than other medicines, which would operate with the same degree of mildness. At this stage of the disease, a combination



of opium and calomel is highly recommended by T Chapman, from whom I could not adduce higher authority. If we only suffer ourselves to reflect on the *modus operandi* of these two articles, we shall be led to conclude, that they must be esteemed as highly useful at this period of the disease. Perhaps it may be said by some, that as this is a disease of an inflammatory nature, opium would only serve to increase these symptoms. This I must confess is entirely foreign to my idea of the effects of opium in this disease. That this is a disease of an inflammatory nature, I have asserted in a preceding part of this dissertation; but I consider this inflammation to be the effect, of no other cause, than a continuance of a great degree of irritation in the alimentary canal; for the removal of which, there can be no medicine better adapted, than a combination of opium, and calomel; for while one is allaying the irritation and spasms of the alimentary canal, the other is more active in removing the feculent contents. After the alimentary canal has been once cleared of its irritating

contents, we should cease the exhibition of purgatives, for
 before much mischief is frequently done by pushing these
 medicines to too great an extent. Instead of the use of
 purgatives in this stage we should resort to opiates
 combined with other medicines, in such a way as to
 produce a determination to the surface, at the same
 time that it calms the irritation, and soothes pain. For
 this purpose, a combination of opium, calomel, and
 ipecac, is admirably adapted in the following proportions

Opium.....jgr	This is to be divided into eight powders, one to be given every two, or three hours, pro re nata. These powders are a little nauseous; and very frequently the stomach is in such an irritable state, that they would be rejected immediately on being taken. In such a case, I would recommend the free use of the warm bath, this determines to the surface, and tends to allay irritation and spasm. Often have I seen the tender infant, so much distressed with the agonies of pain, and with a dry and hot skin, that it required the strenuous exertions of its mother to hold; but as soon as it has been plunged
Calomel.....ijgrs	
Ipecac.....ijgrs	

The first of these is the fact that the
 world is not a uniform whole, but is
 divided into parts, each of which has
 its own peculiar characteristics. This
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 it is the basis of all the phenomena
 which we observe.

into the warm bath it becomes immediately composed; and after it has been removed and wiped perfectly dry a gentle diaphoresis comes on, to the great relief of those distressing symptoms. In combination with the warm bath, I have seen the cataplasms useful and with great success. There is always some acidity of the stomach at this stage, which the chalk, that enters into this preparation, is admirably calculated to counteract. The tincture of opium, which is another ingredient of this preparation, is highly beneficial in allaying irritation, terminating a not uncommon, and also for restraining that looseness of the bowels, which is ^{al}most always an attendant at this stage of the disease. The preparation which I have seen used, is made according to the following formula.

R Corta preparata ℥ij

Tinctura Opii ℥℥ XV

Sacchari albi ℥j

Aqua pura ℥ij thrice; then add a few

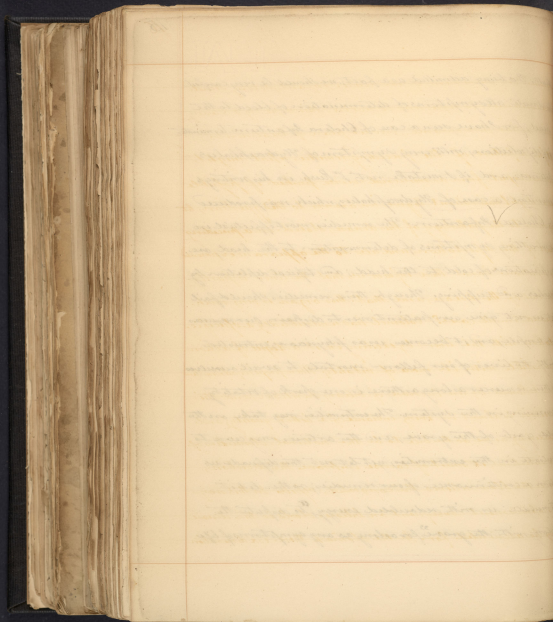
drops of oil of peppermint after having made use of the preceding remedies the disease sometimes appears not to

be at all disposed to yield but still continues to harass the patient, with symptoms of violent pain, great degree of heat, and swelling of the abdomen. In such a case I should have no hesitation in having immediate recourse to the application of blisters over the abdomen. In all febrile diseases of children we must be very sensible, that ~~there~~ is a preternatural determination of blood to the brain, in consequence of that vessel being larger in proportion to other parts of the body, than it is in adults; and not only this, but even the very symptoms of the disease indicate that such must be the case. We should not suffer ourselves to be perfectly regardless of this fact; because on dissection, we discover no morbid appearances in the brain; for in those cases where congestion only takes place; it is easy to conceive that all morbid appearances in the brain may cease after death, as that the effusion of blood in the skull should disappear after the retreat of the blood from the extrinsicks of the vessels in the locomotors of life. It is not uncommon for morbid affections of the brain, to leave either slender, or no marks of disease after

111

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death. This being admitted as a fact, we should be very careful to obviate all symptoms of determination of blood to the head, for I have seen a case of Cholera Infantum terminate in disposition, with every symptom of Hydrocephalus Internus, and if I mistake not, Dr Rush in his writings mentions a case of Hydrocephalus, which was produced by Cholera Infantum. The remedies most effectual in combating symptoms of determination to the head, are applications of cold to the head; and topical depletion by leeches and cupping. Though these remedies should fail, let us not give our patient over to despair, our resources are ample, and it becomes us as physicians, entrusted with the lives of our fellow mortals, to avail ourselves of these resources as long as there is one spark of vitality remaining in the system. The extremities may take on the cold garb of the grave, and the arteries may cease to pulsate in the extremities, yet let not this disquade us from a continuance of our remedies; rather let it stimulate us with redoubled energy, to dispute the victory with the grave, for as long as any symptoms of life



remain in the system of the tender infant, so long should we continue to hope, and to realise this hope, by a steady and active perseverance, in our plan of treatment.

After a failure of the preceding remedies what might we not expect from a mercurial course pushed, if possible to a slight salivation? To give an answer to this question, let us recur to the pathology of this disease, stated in a preceding part of this dissertation; and also to the appearances pointed out in dissection. Do not these inform us, that the liver is partly the seat of this disease; and that this organ is very much diseased in all cases? Colomel has undoubtedly a specific relation with the liver; by exciting in it a degree of action compatible with its mode of vitality. When properly administered it is followed by an increase of biliary secretion, and this secretion is almost in every instance of a better quality; and considering as we do, the bile to be the natural stimulus of the intestines, it must of course improve the digestion, while the flux relieves the congested vessels. In this way the improvement consequent on bilious stools in this disease may be accounted for. In the stomach there is a diminution

of irritability, in the bowels there is a more regular contracting
and there is a more vigorous determination to the surface.

If the internal exhibition of Mercury in the form of Calomel
was not productive of the desired effect, I should then resort to
the aid of the ointment rubbed over the region of the
liver, as well as on the joints. Although the worst
symptoms of this disease may have been arrested, there
still remain some, which it will be necessary to attend to,
such as diarrhoea, tormina and tenesmus. At this stage
of the disease, there are some medicines admirably calculated
to produce beneficial effects; among which, may be
ranked the *Rubus Procumbens*, *Haematoxylon Campechiense*,
Crotalaria, *Isola*, and anodyne injections. The *Rubus*
Procumbens is generally administered in decoction, and may
be prepared, by putting an ounce of the bruised root
to a pint of water. Prepared in this way I have seen
the use of it, attended with very beneficial effects; for
while it tends to restrain the purging, and looseness of the
bowels, it at the same time imparts a degree of tonic to
them. The *Haematoxylon* may be considered as an

equally valuable remedy, prepared and administered in the same way. But while we are endeavouring to restrain this looseness of the bowels, we should be nearly active in allaying the tormina and tenesmus, which are both sometimes very troublesome at this period; for the accomplishment of which, I know of no remedies superior to the chalk dilute, and anodyne injections. As the child must necessarily be very much debilitated after the continuance of such a disease for any length of time, it is necessary to administer such medicines as will restore tone to the stomach and bowels, and through the medium of them, to the general system. The remedies best adapted for this purpose are, a decoction of Peruvian bark, with a little cinchona added to it; the infusions of Colombo, Ququina, and Gentian. Moderate exercise should be considered as an invaluable remedy throughout the whole course of the disease; but more especially in the latter stage. It is said that this has been a means of restoring many children, after every other remedy has failed. This I do not think can be too strongly

The first thing I noticed when I stepped
 out of the car was a warm breeze
 carrying the scent of salt and sun.
 The sun was just setting, painting the sky
 in shades of orange and red.
 I walked along the beach, my feet
 sinking into the soft sand.
 The waves were gentle, lapping at the shore.
 I closed my eyes and listened to the sound
 of the water. It was so peaceful.
 I had never felt like this before.
 The world was so quiet, so still.
 I had found a place where I could
 be alone and at the same time
 feel like I was part of something
 bigger than myself.

imposed on the minds of physicians, for I have seen
the most marked benefit resulting from the emollescence
of exercise from carrying it about in the arms, when the
parents have been in such indigent circumstances, as
not to afford them any other mode of conveyance.
This is not all that is necessary in the treatment of this
disease, for without a strict attention to the diet, it is
impossible that our remedies can have the desired effect.
The diet of children who are weaned, should consist of
farinaceous substances, such as Arrow root, Tapioca, brought
without any fatty substance, baked brown, and grated
into boiled milk. I believe the mother's milk the
best food for children who are not weaned, and the
mother should never be suffered to wean the child
under nine or twelve months, unless circumstances
render it absolutely necessary.

